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(54) MONITOR SYSTEM FOR OPTICAL AMPLIFYING AND REPEATING TRANSMISSION LINE

(57) Abstract:

PURPOSE: To miniaturize the system, to simplify the constitution, and to reduce the power consumption by sending a light signal back to a terminal station not through a movable part like a switch without converting the light signal into electricity at each repeater, and monitoring the repeating transmission line or locating a faulty repeater.

CONSTITUTION: If a repeater gets out of order, the optical transmission part 2 of the terminal station A sends out a light pulse signal P_1 for monitoring which has wavelength λ_1 so as to locate the faulty repeater. Consequently, a signal having the wavelength passes through a filter λ_1 of each repeater and the light signal is sent back to the terminal station. The terminal station A separate signals with λ_0 through a branching filter 10. At this time, light pulses arrive at the terminal station after the time corresponding to the length of an optical fiber. Consequently, if one repeater 5 deteriorates or breaks, a 3rd pulse decreases in amplitude or does not return. The transmission period of sent pulses need to be made much longer than the pulse sending-back time from the farthest repeater.